EDUCATIONAL TOOL FOR WOOD FLOW OPTIMIZATION

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OUTLINE

- Background
- Problem to be addressed
- Woodflow demo
- Concluding remarks

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- Founded 2013
- Optimization models in forestry supply chains
- Aim to implement OR
- Close to research

www.creativeoptimization.se

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BACKGROUND

- Great potential in decreasing costs by using OR in planning
  - Studies report on potential savings of 3-15 %
- No use of OR in forestry supply chain planning
- One reason is lack of knowledge

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BACKGROUND

- Forestry education at SLU
- Wood flow planning with FlowOpt since 2006
- No actual optimization – limited use
- Need for better software
- Discussions with SLU, Skogforsk and forest companies
- Development by Creative Optimization

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PROBLEM TO BE ADDRESSED

- Wood flow planning
  - Optimization of different planning situations
  - Realistic data
- Strategic level
  - Using different transportation modes
  - Timber exchange between companies
- Tactical level
  - Transportation planning on a monthly level
- Sensitivity analyses

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COMPANY INFORMATION

	Company A	Company B
Supply nodes	649	1156
Demand nodes	21	17
Terminals	4	7
Time periods	12	12
Assortments	4	4
Train routes	16	77
Volume (million m3)	3.4	4.4

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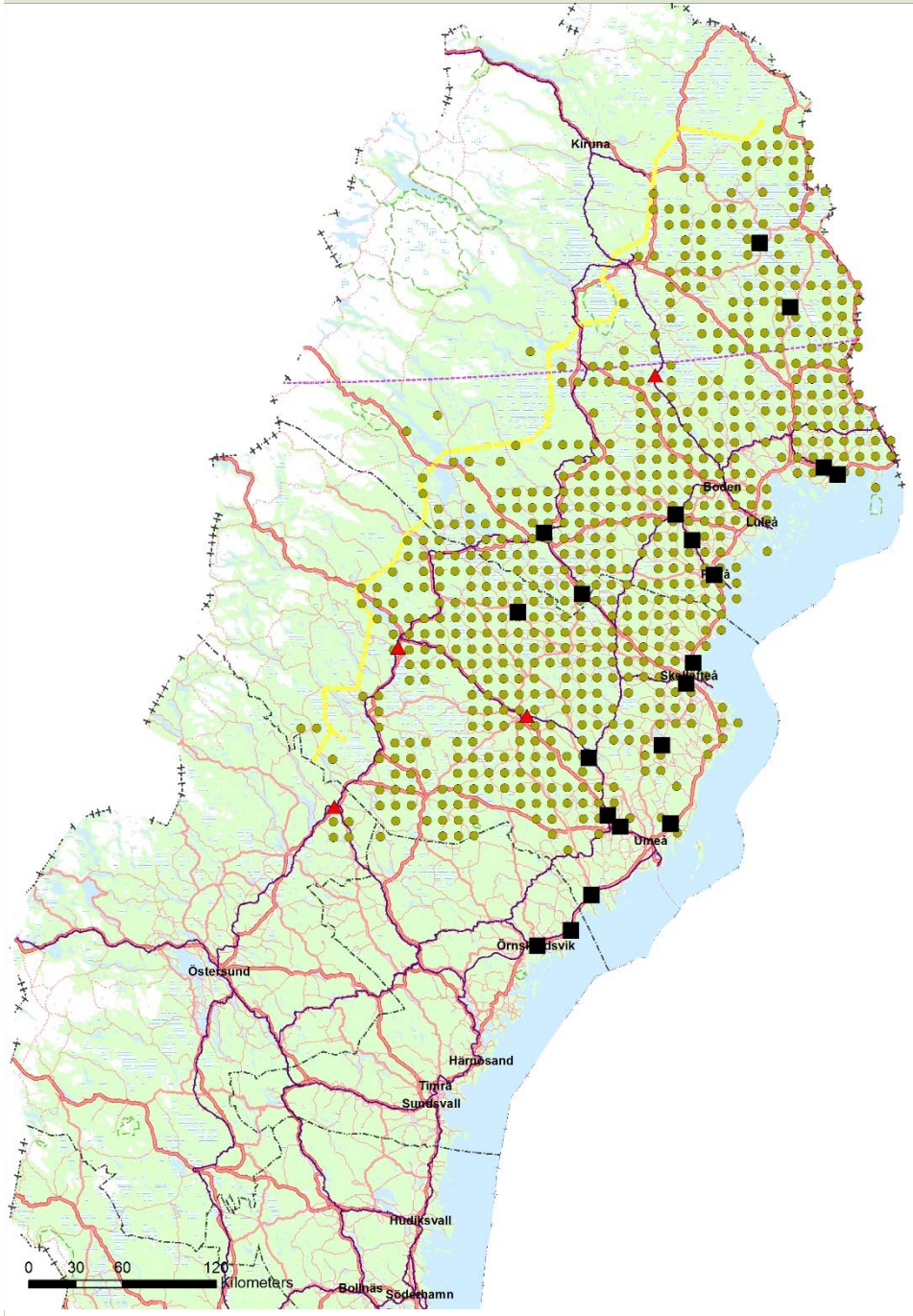
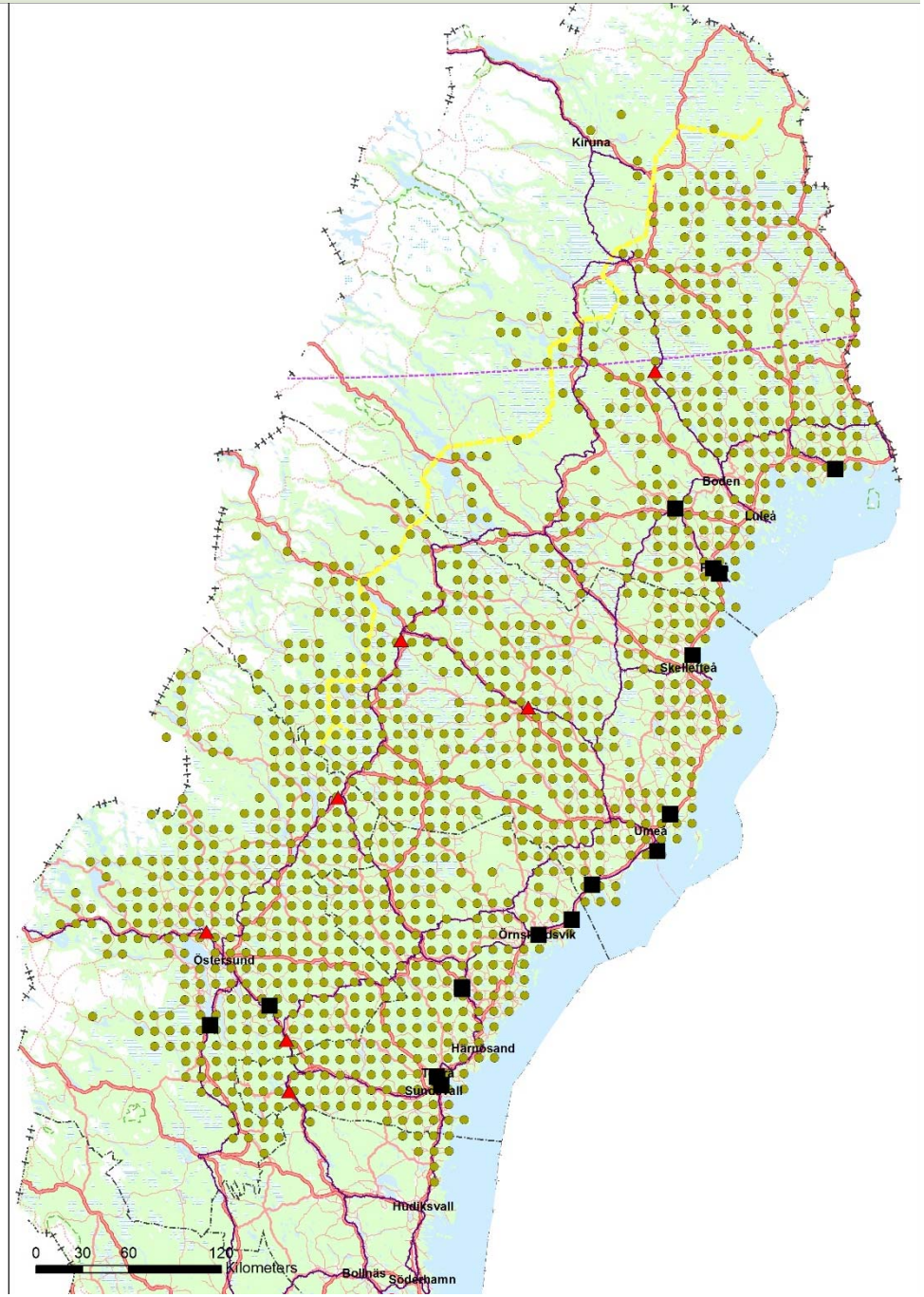


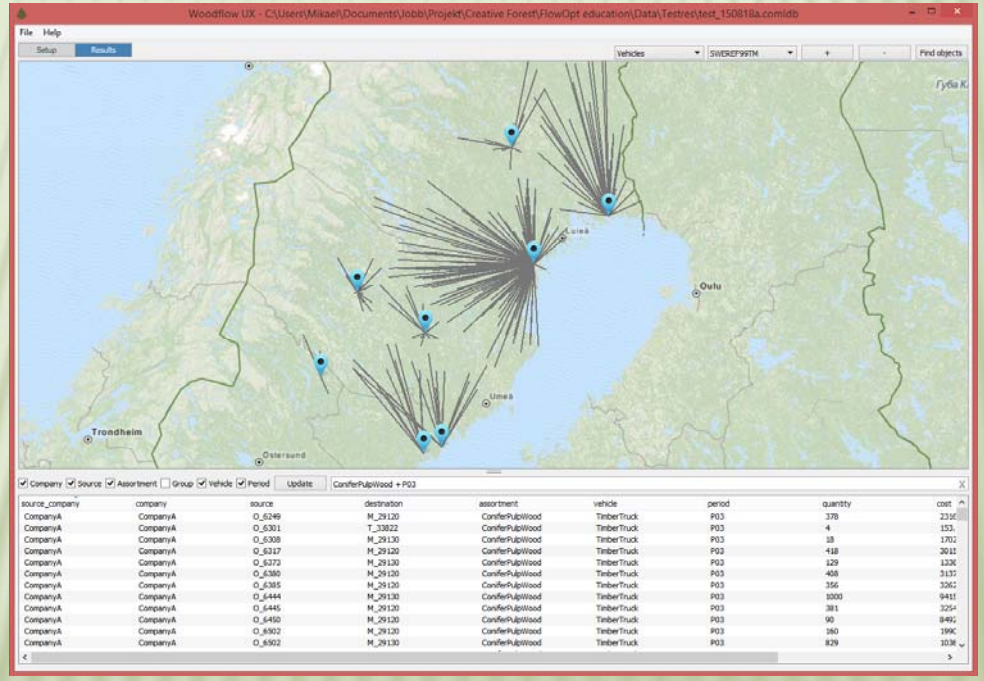
Company A



Company B

WOODFLOW

- Toolset with modelling language, optimization model(s), solver and interface
- Demo



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CONCLUDING REMARKS

- Knowledge level of OR in forestry needs to increase
- Educational tool for learning how to use OR in transportation planning
- Great possibilities to test and try alternative scenarios
- Can also be used for education of managers at forest companies

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Thank you!

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